Leg Pain linked to the Lower Back (Sciatica)

Lower Back Pain (LBP) is common, and most of us (around 80%) will suffer from it at some point in our life. Many people with LBP also experience pain travelling into other areas, such as the buttock or leg. Sometimes this causes pins and needles or numbness. Most of the time, there is not a serious cause; it can come on for no reason. It can be very distressing but does not usually need emergency medical attention.

However a rare but serious complication of back/leg pain called Cauda Equina Syndrome requires emergency medical attention if it develops. Please take the time to read the warning signs below:

You may not develop all of the following signs and they could develop in any order

- Loss of feeling / pins and needles between your inner thighs or genitals or numbness in or around your back passage

- Altered sensation when wiping yourself with toilet paper

- Increasing difficulty when trying to urinate

- Increasing difficulty in stopping or controlling the flow of urine

- Loss of feeling when you urinate or empty your bowels

- Recent leaking of urine or needing to use pads

- Not knowing if your bladder is full or empty

- Inability to stop a bowel movement or leaking

- Recent changes in either sexual function or loss of sensation in genitals during sexual intercourse

If any of these warning signs have developed in the last 2 weeks, following the onset of your back pain, you should attend your nearest Emergency Department.

Other symptoms to be aware of are:

- significant noticeable weakness of your leg causing you to trip/fall,
- you have difficulty walking because your legs are weak or feel stiff or uncoordinated
- you develop a floppy foot

then you should seek urgent medical attention.

Finally, if you have recently developed back and/or leg pain and:

- have a history of Cancer

- feel generally unwell such as developed a fever or night sweats

- are losing weight for no clear reason

You should discuss your symptoms with your GP

What is Referred pain?

Many people with LBP experience pain spreading into the buttock or leg. This is 'referred' pain. Although it feels like a problem in the hip or leg, the problem is often higher up in the back. This may be due to inflammation or sensitivity of some of the joints, muscles or discs in the back. It may be an ache or occasional sharp pain. This is often confused with Sciatica, but actually has nothing to do with the nerves at all.

Referred pain is due to the way our bodies are wired up. It is not a sign of anything serious and often clears up as the back problem improves.

What is Sciatica?

The nerve that leave the spine and travels into the leg is called the Sciatic Nerve. This can become irritated or 'pinched' by swelling or inflammation or a disc problem. If this happens it can also result in pain into the leg, which can be quite severe, particularly early on. We call this 'Nerve Root Pain', 'Radicular Pain' or 'Sciatica'. Sciatica affects anywhere between 15 and 40% of us in our life.

What are the Symptoms?

Pain from the Sciatic nerve typically travels below the knee into the calf or foot. It is often described as shooting, burning or electric in nature. Some people can experience many different types of sensations. The leg pain is much worse than the back pain; some people don't experience any back pain at all. This can lead to some confusion about where it is coming from. Many people can have unusual feelings, like pins and needles or some numbness in the leg. Certain muscles of the leg can feel weak depending on which nerve in the back is sore.

Why does the leg feel Tingling, numb or weak?

Nerves are a bit like the wiring system in the body. They tell the muscles in the leg what to do and they also pass sensation messages from the leg to the brain. If there is a problem with the nerve, these messages can be interrupted or aren't as clear . This leads to strange sensations in the skin or weakness in the muscles that each nerve supplies. As nerves recover these sensations often improve and weakness recovers. This recovery can be slow and take months.

What are the Common Causes?

Swelling or inflammation can lead to irritation or compression of the nerves. One of the commonest structures involved are the intervertebral discs of the spine. As we age these dry out and start to flatten, causing them to swell or thicken around the edges (disc bulge). This happens to everyone to varying amounts . We usually aren't aware of it as it often doesn't cause symptoms as the body adapts. In some people, this can be enough to irritate the nerve making it unhealthy or sensitive. This can result in symptoms such as pain.

Occasionally people can experience a sudden injury to the disc. This is called a disc prolapse or herniation. This can cause acute inflammation. In this case, the inner nucleus (thick substance like jelly) of the disc can leak out. This can compress or irritate the nerve, which can be very painful and distressing. The body still has an excellent capacity to heal this. Many acute disc prolapses resolve over time.

Sciatica can also happen as a result of ageing changes in some of the other structures of the spine. This can involve the bones and ligaments. This can lead to narrowing of the canal that the nerves pass through. This is called Stenosis. (see the information leaflet about stenosis on the TIMS website). This usually affects the older population.

How Can I help myself?

Most sciatic nerve problems improve with time. There are some things that you can do to help this along as much as possible:

Get adequate pain control, especially in the early stages. High pain levels in the early stages can sometimes lead to a poorer outcome or slower recovery.

Getting appropriate sleep – sleep is when our body recovers and heals. Pain often interferes with the sleep cycle. The following factors can help improve sleep. Good pain control so you are more comfortable at night. Avoiding caffeine late at night is helpful. It is important to be active enough through the day to make you tired. Avoid napping through the day. Try sleeping with a small firm cushion between the knees when lying on your side. If lying on your back, pillows under your knees may ease symptoms.

Trying to remain active wherever possible. Avoiding activity because of pain can hinder rather than help in the long term. Avoid spending long periods sitting or lying . Movement improves the blood flow to the nerves. So remaining active can aid recovery and help manage symptoms.

Trying some exercises to keep your back and nerve tissue moving. Movements of the back help to keep the joints mobile and stop them from stiffening up. They also show the body that movement is safe, which can influence how much it will protect or create pain. There are some exercises at the end of this leaflet that can be helpful in regaining mobility. They can sometimes help with short term pain relief. As a rule, don't do anything that causes excessive pain, but don't be frightened of it either. You may have to accept some discomfort when you are trying to keep active and do the exercises.

Relaxation/stress management techniques . We now understand better the impact that low mood, fear and anxiety/worries can have on symptoms. Pain and uncertainty around the cause can lead to some of these emotions/feelings. This in turn can contribute to more distress and pain worsening. Understanding and recognising this in yourself can be important. Strategies such as Mindfulness or Relaxation techniques can sometimes help.

What Other Treatments are available?

In most people, their symptoms will improve. In some situations symptoms don't improve to a manageable level. There may be signs that the nerve has been quite badly injured. In these cases an MRI may help to determine if there is a clear structural reason for this. This can lead onto more invasive treatments

1. **Injection Therapy.** Steroid injections target the nerve, or the space around the nerve in the spine. They are sometimes used to help confirm the diagnosis before surgery. This is when the leg pain is severe and not improving. They can offer short term pain relief in some people but are rarely a long term solution. They are only used in select cases and usually if all conservative measures have not helped. Spinal injections are done in theatre.

2. **Surgery.** This is considered in special cases, such as significant weakness or severe pain. Other treatments should have been tried first. Surgery may improve the pain in the short term. In the long term (more than 1 year) the outcome is similar for both surgical and non-surgical groups

I've had leg pains for a long time but nothing seems to help!

Many sciatic nerve problems improve with time or treatment. Unfortunately some people have symptoms that don't go away or continue to come and go on a regular basis. We use the term 'persistent' or 'chronic' pain when things don't resolve as expected. If pain is very severe and there is a cause identified on an MRI, you may be referred to a specialist. This would be to discuss more invasive treatments, such as injections and surgery.

However, MRI scans often don't tell us the whole picture. Even after having these treatments some people still suffer with pain. Others may find that their scan doesn't show anything that a surgeon can treat. This can again be very confusing and frustrating. We know that pain is complicated. Nerves can remain sore and sensitive long after discs or other tissues have healed. It is important to focus on ways to try and manage or live with pain. Physiotherapy can offer some further guidance and support.

When to Seek Help?

Most sciatica tends to improve with time. It isn't always necessary to seek medical attention, particularly in the first few months. Remaining active and keeping pain under control will improve your outcome and recovery . Working on weight management will help your recovery. Getting enough quality sleep and managing stress are very important.

If either:
-You feel your pain is too severe and unmanageable
-There is a significant impact on your sleep that isn't helped with medication
-Your symptoms are progressively worsening, despite trying the exercises and advice
-Symptoms have lasted more than 6-8 weeks, with no improvement despite trying exercises.

t**hen call TIMS to arrange an appointment.**

The following exercises can help to improve your general mobility and back mobility. This can aid recovery. You may also find some of the exercises useful for helping to relieve pain in the short term.

You don't have to do them all. Find the ones you feel most comfortable doing or which seem to help you the most and stick with those.

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Lying with your knees bent and feet on the bed. Lift your knees towards your chest.

Place your hands behind both knees and draw them towards your chest. Hold 20 secs.

Repeat 5 times.

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Crawling position.

Let your arms slide along the floor/bed as far as possible. Push your bottom back and down and the chest towards the floor. Breathe out while you go down.

Hold 20-30 seconds staying relaxed and trying not to hold your breath

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Knees to Sides

Lie on your back with knees bent.

In a controlled manner move your knees from side to side. Go only as far as you can without moving your shoulders too much. Try and stay relaxed with slow controlled breathing throughout.

Repeat 10 - 15 times.

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Lying on your back with knees bent.

Squeeze your buttocks together and lift your bottom off the floor. Return to starting position.

Repeat 5 - 10 times.

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Knee Extension in Sitting. This can be helpful to get the nerve in your leg moving and promote circulation

Sit up straight on a sturdy chair, so that your feet are supported on the floor.

Bend your ankle and straighten your knee slowly using your front thigh muscles until you feel a gentle pull in your leg.
In a controlled manner, return to the starting position.

Repeat this slowly up and down without pausing for around 1 minute.

Repeat 2 times.

Squat

Stand tall with feet slightly wider than hip-width apart. Toes pointing forward or turned a few degrees outwards. Keep your chest up and your spine and neck in a neutral position.

Squat down by sitting back and bring your arms forward. Push back up through the heels, chest up, and straighten your hips. You can hold onto a chair or worktop in front of you for balance

Note:
- Keep your hips, knees and toes aligned if you can
- Keep your weight evenly on your whole foot.

Repeat 10 times.

Stand holding onto a table or kitchen work top if you need to for balance.

March in place for 30 - 60 secs, trying to get your knees high up and level with your hips if you can.

Going for a walk every day, and seeing if you can gradually increase the distance/time as the days or weeks go by, can be really helpful.

Start small if you need to and set a daily goal to try and go a little further each time

Further reading & references

Information in this leaflet is based on: https://cks.nice.org.uk/sciatica-lumbar-radiculopathy

-**All about back problems** available at https://www.tims.nhs.uk/self-care/back/

-**What is sciatica?** available at https://www.youtube.com/watch?v=HJvNBYOKf64

-**Ten sciatica facts** available at Ten sciatica facts - South Tees Hospitals NHS Foundation Trust

-**Understanding Pain in less than 5 minutes, and what to do about it!-** available at Understanding Pain in less than 5 minutes, and what to do about it! (youtube.com)

-The Single Most Important Thing You Can Do For Your Stress available at 90:10 The Single Most Important Thing You Can Do For Your Stress (youtube.com)

For further information

Please email **ghnt.newcastlegatesheadtims@nhs.net**, ring on **0191 2138800** or visit our website at: **www.tims.nhs.uk** which provides online guidance and support on managing your musculoskeletal (MSK) condition effectively.

The NHS website also provides trusted online information and guidance on all aspects of health and healthcare to help you manage your condition and/or inform your choices about your health: **www.nhs.uk.**

Useful links

The Patient Advice and Liaison Service (PALS) can offer on-the-spot advice and information about the NHS. You can contact them on freephone **0800 032 02 02** or e-mail **northoftynepals@nhct.nhs.uk.**

Tyneside Integrated Musculoskeletal Service

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